

Annotation and Imaging Markup (AIM)



Biomedical image annotation service

In order to support personalized medicine, imaging-based clinical trials and research studies need to link medical image features, text-based descriptions, and digital drawings with corresponding image locations. The caBIG® In Vivo Imaging Workspace's **Annotation and Imaging Markup (AIM)** provides both an information model and a software toolkit to achieve this goal. AIM supports the annotation of large imaging-based data collections from multiple sources, as well as tracking of quantitative changes to image features.

The AIM information model uses a Unified Modeling Language (UML) class diagram to capture the descriptive information of an image and image markups in a common information source. An annotation can be explanatory or descriptive information generated by humans or machines, and describes the meaning of pixel information in images. AIM can visually depict textual information or regions of interest beside, or more typically overlaid upon, an image.

Capability:

- Makes use of standard terminologies like SNOMED CT and RadLex to capture and store observations from radiologists and information about DICOM-format images, including characteristic quantification, inference, annotation role, AIM status, equipment, image source, and calculations.



Categories of Use:

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|--|--|---|--|
| <input type="checkbox"/> Biospecimens | <input checked="" type="checkbox"/> Data Sharing | <input checked="" type="checkbox"/> Imaging | <input type="checkbox"/> Proteomics |
| <input checked="" type="checkbox"/> Clinical Trials Management | <input type="checkbox"/> Genome Annotation | <input type="checkbox"/> Microarrays | <input checked="" type="checkbox"/> Translational Research |
| <input type="checkbox"/> Data Analysis & Statistical Tools | <input type="checkbox"/> Infrastructure | <input type="checkbox"/> Pathways | <input checked="" type="checkbox"/> Vocabularies |



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Architecture Overview:

- **Application type:** Windows-based and Web-based application.
- **System requirements:** Full installation requires Windows XP or later and software, such as Enterprise Architect, with XML file format capabilities.

Installation and Administration:

- **Skills sets needed:** The AIM installation package requires C++, UML and XML programming expertise.
- **Infrastructure needed:** Windows XP or later.
- **Long-term administration needs:** Basic IT administrative support.

Key Contributors:

- caBIG® Imaging Workspace
- Northwestern University
- Stanford University
- Guthrie Health

Resources:

Tool Overview Page	https://cabig.nci.nih.gov/tools/AIM
Primary Workspace	https://cabig.nci.nih.gov/workspaces/Imaging
caBIG® Tool Inventory	https://cabig.nci.nih.gov/inventory
NCI Center for Bioinformatics Applications Support	aimteam@northwestern.edu
caBIG® Support Service Providers	https://cabig.nci.nih.gov/esn/service_providers



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